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Atmospheric Measurement Techniques Discussions

Interactive comment on "An optical particle size spectrometer for aircraft-borne measurements in IAGOS-CARIBIC" *by* M. Hermann et al.

Anonymous Referee #2

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Review of " An optical particle size spectrometer for aircraft-borne measurements in IAGOS-CARIBIC" by Hermann et al.

This study reports on a characterization and aircraft deployment of an optical particle size spectrometer for size distribution measurements. The topic is of interest to the journal. The title is appropriate and represents the contents of the paper. The paper is written well and the figures are legible and easy to process. I have one major comment below and a couple more minor comments related to this study.

Major Comment: I am not sure what is novel about this work. The last sentence of page 11600 suggests that this instrument has already been used for particle size distributions, thus I am under the impression that the technique is not new. Is the data

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processing software new? If I am misunderstanding the text and the instrument is new, what new and cutting edge capability does it provide that makes in more significantly important than previous optical particle sizers? This point was not clear to this reviewer and should be made very clear in a revision. Is the novelty of this paper that just an ordinary OPC was used to collect data in a hard-to-access part of the atmosphere? If so, then the issue remains about what is new about the instrument because this information is needed to qualify this manuscript important for this particular journal.

Minor Comments: Page 11599, Line 12: I am not sure how this can be expected based on the first part of the sentence "and thus allows the post-flight choice of the time resolution and the size distribution bin width."

Introduction: The authors need to motivate the importance of doing measurements in the "UT/LMS" better. Why are they focusing on this region and not other parts of the atmosphere? What are the major issues right now in the UT/LMS that the community should be concerned about and how can the data generated from this instrument help address those issues? Please add text about this issue.

Interactive comment on Atmos. Meas. Tech. Discuss., 8, 11597, 2015.